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**Tol** Ms. Edith Taylor, Leon County Emergency Management

cc: Mr. Richard Smith, Leon County Emergency Management

Tony Busam, RCC Consultants

Joe Nasser, RCC Consultants

From: Clint Hugghins, RCC Consultants

Date: August 25, 2004

Re: Leon County CPE - Short List Vendor Questions

The following are vendor questions designed to further evaluate the 9-1-1 CPE proposals submitted by TDS Telecom, CML, and Sprint/Positron.

## TDS-TCI

- 1. Explain how you are planning to deploy your VoIP solution in Leon County. What are the primary elements and who manufacturers your equipment.
- 2. Where have you successfully implemented systems similar to that proposed for the Leon County 9-1-1 system? What is your record of accomplishment with VoIP implementations?
- 3. What do you perceive are the benefits to the County if we were to use this solution?
- 4. How does the proposed system provide fault tolerance?
- 5. What, if any, are your plans for circuit diversity?
- 6. Based upon what you are proposing, what is your estimated call setup time from the calling party perspective? What are the limiting factors?
- 7. In Section 2.1, the proposal says the County will procure Sprint Network services "outside of this RFP". How much support will TDS provide in the ordering of these services?
- 8. What are the reliability figures (MTBF, etc.) for the proposed Seattle/Phoenix ALI and selective router databases? Does the Glynn County system utilize these databases?
- 9. Describe how TDS will provide day-to-day system management.
- 10. Your proposal does not include pricing for 9-1-1 data and cites it as "TBD." What are these costs?

## **CML**

- 1. Where have you successfully implemented systems similar to that proposed for the Leon County 9-1-1 system?
- 2. How does the proposed system provide fault tolerance?
- 3. Describe how CML will provide day-to-day system management. Firmly state your understanding of this requirement including the aspects of Network, MSAG and MAP maintenance.

- 4. You have proposed A.K. Associates as a subcontractor. Who is A.K. (headquarters, years in the 9-1-1 business, number of employees, etc.)?
- 5. In Section 2.1.3, CML requires a yearly Grade of Service (GoS) study. Is this included in the services price proposal?
- 6. What, if any, are your plans for circuit diversity?
- 7. Based upon what you are proposing, what is your estimated call setup time from the calling party perspective? What are the limiting factors?
- 8. What are the implications of having only one ECS1000? How does this affect reliability?
- 9. Discuss how the proposed system will interface the existing LCSO, EMS and TPD/TFD CAD applications.
- 10. In the proposed system, an ECS1000 routes calls via a private network to either LCSO or TPD call takers. What is the proposed method of transport for this routing?
- 11. LCSO and the Mobile Command Post will have mapping at each position. TPD will have the wireless data ported to their internal Computer Aided Dispatch system. Price for mapping had the exception: the County map data would match vendor's map library. What has to be provided by the County to support this mapping functionality?
- 12. Describe your process for deployment of wireless Phase II service.
- 13. There were no identified facilities to extend recorder/reports to the County 9-1-1 Coordinator. How will you accomplish this in the proposed system?
- 14. Regarding day-to-day system administration, firmly state your understanding of this requirement including the aspects of Network, MSAG and MAP maintenance.

## SPRINT/Positron

- 1. How does your proposal differ from VoIP solutions?
- 2. Where have you successfully implemented systems similar to that proposed for the Leon County 9-1-1 system?
- 3. No proposed system diagram was included in the RFP response. Please provide a system diagram.
- 4. What, if any, are your plans for circuit diversity?
- 5. Based upon what you are proposing, what is your estimated call setup time from the calling party perspective? What are the limiting factors?
- 6. The Norstar PBX will provide ringdown power and signaling to secondary PSAPs. Elaborate on your solution.
- 7. How does the proposed system provide fault tolerance?
- 8. Describe your process for deployment of wireless Phase II service.
- Describe how Sprint/Positron will provide day-to-day system management. Firmly state your understanding of this requirement including the aspects of Network, MSAG and MAP maintenance.
- 10. You proposed optional pricing for critical spare kits (Section 2.1.15.1). Will the County have to purchase these spare kits in order to receive the service levels required in the RFP?

11. The County is not satisfied with the level of service currently provided by Sprint. Sprint took exception to the service level RFP requirements (escalation, penalties, malfunction definitions, etc.). How will Sprint improve service quality in the new contract?

## Sprint Response

#### SPRINT/Positron

1. How does your proposal differ from VoIP solutions?

This is a VoIP solution. The Sprint proposal utilizes the Voice over Internet Protocol (VoIP), with all 911-related traffic occurring on a dedicated network. The difference of this Positron/Sprint proposal from other offerings is that it is based on a non-proprietary open SIP protocol. All CAMA trunk interfacing as well as and most importantly, user interfacing through Positron's Power 911 application remains the same.

Please review the Power Point diagram included with this response as well as the diagram contained in the Positron Executive Summary

2. Where have you successfully implemented systems similar to that proposed for the Leon County 9-1-1 system?

Sprint has Power 911 and/or Power Map installed in the following Florida sites.

**Holmes County Florida** 

**Jackson County Florida** 

**Leon County Florida** 

**Madison County Florida** 

**Taylor County Florida** 

**Sumter County Florida** 

Okeechobee County Florida

Glades County Florida

if additional reference sites are needed outside of Florida, this can be provided if needed.

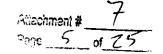
In addition, the proposal submitted to Leon County introduces a new backroom based on VoIP technology. This new backroom, much leaner and simpler to install and manage, transports data and voice on the same network infrastructure, greatly reducing the number of components required to implement a 911 system. Positron and Sprint believe that Leon County's distributed PSAPs would greatly benefit from the streamlined deployment of Positron's VoIP offering. The implementation of this project will be executed through the direct involvement of Positron's Product Management and Engineering departments. Extensive use of Positron's staging capabilities will be made, assembling and pre-testing the backroom as well as the workstations in Positron's labs before shipping to the sites.

Positron has also incorporated VoIP technologies at the following sites:

San Antonio, TX, (Bexar Metro): dispatches the county's fire, PD, SO and EOC. There are four PSAPs powered by Avaya PBXs IP networked between sites. No controllers installed on the premise.

Washington County (Seattle, Washington): Seven IP networked Nortel Norstar powered PSAPs.

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Jasper County, Indiana (Sprint): IP connected Norstar powered PSAPs.

Pope AFB: IP extended Simon network appliances/answering positions.

Dunklin County (SBC territory): IP extended remote positions.

3. No proposed system diagram was included in the RFP response. Please provide a system diagram.

Diagram(s) provided with the email.

4. What, if any, are your plans for circuit diversity?

Sprint 911 trunks and circuits are diversified at the T3 level from the serving Central Offices through the Tandem out to the "last mile" to the customer premise.

Within the T3 level we diversify all T1's identifying each with system A or B.

ALI Circuits are also diversified by being routed through differing access points into the state. One circuit is carried via Sprint Long Distance and the other via a similar MCI carrier.

5. Based upon what you are proposing, what is your estimated call setup time from the calling party perspective?

From a CAMA trunk signaling perspective, the VoIP solution proposed provides the same call setup characteristics as traditional non-VoIP ANI/ALI controllers. Call presentation to a position is approximately 3-4 seconds and call pickup to establishment of voice path is approximately 1 to 2 seconds with total call setup time between 4 to 6 seconds.

What are the limiting factors?

Network bandwidth, both LAN & WAN and the processor speed of the soft-switch and workstations are factors which affect all applications that process IP-based information. The proposed solution and architecture adequately addresses these important aspects.

6. The Norstar PBX will provide ringdown power and signaling to secondary PSAPs. Elaborate on your solution.

There is not a Norstar PBX configured for this solution. This is a VoIP solution whereby CAMA trunking is piped via the voice gateways into the solution and standard VoIP applications deliver the call to the appropriate PSAP.

7. How does the proposed system provide fault tolerance?

## POWER 911 INTELLIGENT WORKSTATION FAULT TOLERANCE

Failure of a workstation:

No effect on other positions or on the Power 911 network. If a workstation fails during the course of a 9-1-1 call, this situation is immediately detected and the call is re-presented (ringing) to all of the positions for further processing.

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Failure of the network hub:

It is important to note here that Voice data is transmitted through network switches. The failure of a network switch has been addressed by implementing redundancy at the switch level and distributing positions to multiple network switches. The capability of installing dual NIC cards on the workstations as well as the servers also provides alternate connectivity paths to ensure continued services at the PSAP.

Failure of the Database Server:

All positions continue to operate, and information is still shared between workstations, as the Power 911 network is configured with redundant virtual object servers, one of which resides on the Database Server, the other of which runs on one of the Workstations. When the network resumes normal operation, the Database Server will be updated.

8. Describe your process for deployment of wireless Phase II service.

Every E911 customer in Sprint's serving area is Phase I Phase II capable with the first Phase 2 site being turned up in 2002.

Wireless carriers connect to the Sprint databases and provide Phase II delivery once a County has notified them that they are Phase II ready. Testing is scheduled and each carrier is turned up individually with the active involvement of the Carriers, Sprint, and the subscribing County.

A wireless phase II call is received at the PSAP with a PANI received as <u>part of the</u> initial ANI spill. The PANI is consequently used to obtain a Phase II ALI spill from the carrier and this information is then displayed within the ANI/ALI display. Positron's Power MAP product then uses the X, Y coordinates included in the ALI to display the caller's location on the MAP.

Positron's backroom, call taking and mapping products have been Phase II ready and compatible since the early years of its introduction. Power 911 can be configured to execute manual or automatic ALI re-bids for continuous display of caller's location.

 Describe how Sprint/Positron will provide day-to-day system management. Firmly state your understanding of this requirement including the aspects of Network, MSAG and MAP maintenance.

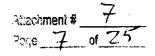
Sprint understands the County's goal of having a complete turn key system whereby day to day management of the Network, MSAG, and Map maintenance is provided by a single point of contact.

Leon County's goal is very similar to services that Sprint has been providing many of our customers for years, including Leon County. What follows is a description of how those services are provided.

## **NETWORK**

Network surveillance is monitored by our NOC and when a trouble is indicated within the system we respond immediately and if required we will dispatch a technician for on site resolution.

## Page 4 Sprint Response



If a network trouble is discovered by a PSAP they utilize Sprint's established SPOC procedures and report it to our NOC. Immediate testing and resolution procedures are undertaken by NOC personnel. If required Sprint will then dispatch a technician to the site for on site resolution.

## **MSAG**

All MSAG update requests are submitted by County to the vendor via fax, e-mail or other means of electronic transfer and are completed with 24 hours of receipt. If the MSAG information on request form is in vendor's territory, vendor will update the MSAG and its internal Street Index Guide (SIG) database for service order activity.

If vendor determines that the MSAG information on the request form is outside vendor's territory, vendor will update the MSAG within 24 hours and refer to the appropriate local exchange carrier (LEC) to update their internal Street Index/Addressing Guide (SIG or SAG). Vendor will return completed request form to County. Sprint is in full compliance with all related standards and requirements

## MAP

Existing Mapping data will be used initially to configure the Power MAP application. Depending on the frequency of the County's map data upgrade policies, Positron can provide tools which automate this process.

The Positron Remote Upgrade product, successfully implemented in many multi-PSAP environments, allows customers to update their GIS data automatically once new data is made available at a central location. New GIS data is sent from a central server to remote servers and/or positions using the LAN/WAN connectivity. The process is totally unassisted and can be configured based on user preferences (frequency, time-of-day, based on available bandwidth etc.).

Positron can also provide instructions to a County-designated specialist to perform manual GIS data updates, on a position basis. Data can be copied to the workstations either by using the LAN or through the use of a CD-ROM containing the updated GIS data.

10. You proposed optional pricing for critical spare kits (Section 2.1.15.1). Will the County have to purchase these spare kits in order to receive the service levels required in the RFP?

No, from Sprint's perspective this purely an optional purchase for Leon County's consideration.

Sprint provides a critical spares kit located in Leon County that is utilized for Leon County and other counties with systems similar to Leon. The county would have to purchase a spares kit only if they wanted an "on site" kit, dedicated to Leon County.

One of the advantages of on site spares is that Leon's spares would be their own. Any parts used at a Leon County PSAP would be replaced by Sprint at no additional cost for any covered repair.

## Sprint Response

11. The County is not satisfied with the level of service currently provided by Sprint. Sprint took exception to the service level RFP requirements (escalation, penalties, malfunction definitions, etc.). How will Sprint improve service quality in the new contract?

Sprint did not take specific exception to any of the liquidated damages but did request the opportunity to discuss them further. Based upon the spirit of good faith negotiations used in the past, Sprint agreed to the definitions used by the County in the RFP during the committee reviews on August 18-19 2004.

Sprint agreed to Service Level requirements contained within the current contract and so far, has provided a level of service that has not resulted in any monetary or service credits being requested by the County for failure to perform requirements.

Going forward I can point to the 3 trained and experienced Positron technicians based in Tallahassee as well as the location of the Florida Public Safety engineer with 10 minutes of the PSAP's. All of our technicians are Leon County residents and home dispatched when on call.

We have specific and easy to follow trouble reporting procedures that PSAP's can use, as well as escalation procedures. There is only one phone call to make for all of your repair issues or needs:

E911 Repair ANI/ALI Lookups, Reroutes, Circuits or Equipment Problems	Marketing Repair Service Evaluator Reference the Options on Front sheet	1-877-433-1989 Toll Free	7 by 24
<u> </u>		1-877-433-1989 Toll Free	7 by 24
		1-877-433-1989 Toll Free	7 by 24
	6	1-877-433-1989 Toll Free	7 by 24
Market 1	to a constant of a constant of the second	1-877-433-1989 Toll Free	7 by 24

Leon County also has access to the Florida Public Safety Team whose sole purpose is to assist Leon County with any need that they have.

Leon County also has the ability to directly contact the local service manager and the local technicians who already service Leon County.

Our Centurion Service agreements require 2 – 4 hour response times and there are many times where Sprint has identified and resolved a problem without our customers even being aware of the occurrence.

We are very confident that Sprint can meet all the performance requirements contained in the RFP and proof of that is our decision to honor the requirements as written. We are also open to any further discussions that will further define and isolate any specific needs that the County has.

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To: Ms. Edith Taylor, Leon County Emergency Management

CC: Mr. Richard Smith, Leon County Emergency Management

Tony Busam, RCC Consultants

Joe Nasser, RCC Consultants

From: Clint Hugghins, RCC Consultants

Date: August 25, 2004

Re: Leon County CPE - Short List Vendor Questions

The following are vendor questions designed to further evaluate the 9-1-1 CPE proposals submitted by TDS Telecom, CML, and Sprint/Positron.

#### CML

1. Where have you successfully implemented systems similar to that proposed for the Leon County 9-1-1 system?

CML has over 1000 PSAPs running on over 500 ANI/ALI controllers and approximately 25% of the Country's selective router market. Included in this number are many sites where a central ANI/ALI controller supports multiple remote PSAPs. An example of this can be found at the State of Hawaii whereby two centrally installed ANI/ALI controllers support numerous remote positions at multiple PSAPs.

Within the state of Florida CML has installed ECS-1000 ANI/ALI Controllers at the following locations: Duval County, St. Johns County, Polk County, Hillsborough County, Pasco County, Sarasota County and Manatee County. Also at Okaloosa County CML deployed an ECS-1000 configured as a combination ANI/ALI controller and selective router.

CML in conjunction with A.K. Associates have the experience, resources and business acumen to bring this project for Leon County to successful fruition. As partners, we are committed to the Leon County's complete satisfaction.

2. How does the proposed system provide fault tolerance?

#### ECS-1000

CML's E9-1-1 system architecture promotes two key concepts: reliability and speed. To achieve a high level of reliability without compromising the speed or integrity of its systems, CML is proud of the safeguards it has developed to provide uninterrupted system operation in the event of equipment failure (including network failure) or call-taker error. These safeguards include the following:

- hot standby redundancy of all vital modules
- no single point of failure at the system level (with hot standby and N+1 redundancy)
- call re-routing to alternate answering positions or Public Safety Answering Points (PSAPs) in the event of a failure in the line, a problem with the answering position equipment, or no calltaker response

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CML E9-1-1 systems allow for automatic, manual, and programmed transfer (switchover) of function from the active module to the standby module.

- Automatic switchover: If one module fails, control automatically switches to the duplicate module without interrupting service.
- Manual switchover: If the associate processor (AP) or the mixer module is suspected to be faulty, it is possible to manually switch the control from one module to the duplicate.
- Programmed switchover: To ensure that duplicated AP and mixer modules are used
  equally, the system can be programmed from the maintenance position so that operation is
  switched from one module to the duplicate module every 24 hours. This operation does not
  disrupt the system in any way.

All ECS-1000 switch modules accessing a common system bus utilize a fail-safe, three-state device and secondary relay isolation on all common bus nodes. These relays automatically fully isolate a Programmable Switch module in the event of circuit or on-board fuse failure.

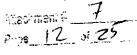
The ECS-1000's DC power supply modules (including AC/DC converters) are configured for N+1 redundancy. All system buses are redundant. The control bus linking the associate processor to all other modules is also duplicated; both the active and inactive processors have a dedicated control bus to preserve the integrity of the hot standby safeguard.

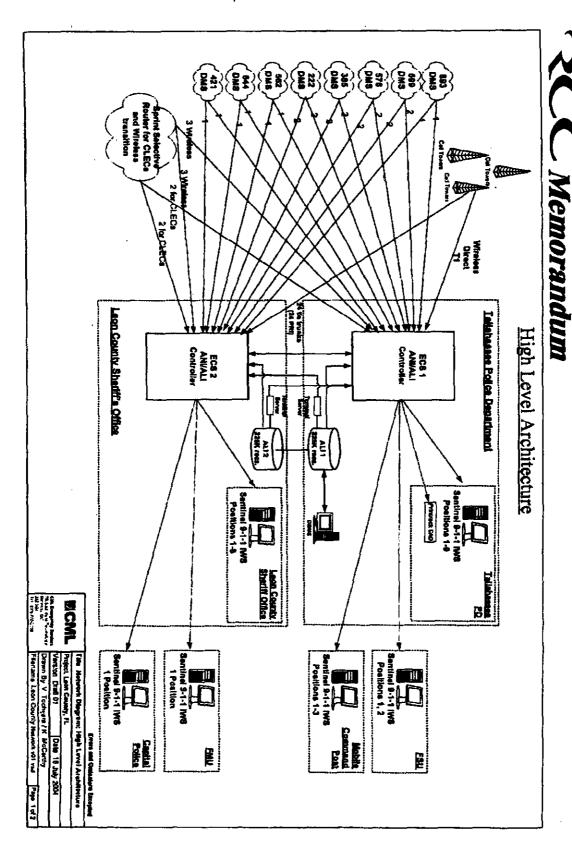
All vital system modules are protected through the use of redundant modules to ensure single point failure tolerance. It is mandatory that any central processor and audio switching and conferencing matrix are fully duplicated in a hot stand-by mode. Switch-over of those modules upon a failure is automatic and does not require manual intervention. The switch-over maintains all calls in progress.

## Proposed Network

As well as the inherent fault tolerance built into the ECS-1000 the proposed network is designed with fault tolerance and diversity in mind. Two ECS-1000 ANI/ALI controllers will be deployed to provide maximum route diversity from the connecting service providers through to the remote PSAPs. All connecting service providers, wireline and wireless, will connect to both ECS-1000 ANI/ALI controllers. The ECS-1000 ANI/ALI controllers will be installed at different locations and connected via redundant ISDN PRI inter-tandem trunks. Please review the following diagram for an overview.

CML Response





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## Note:

Leon County informed CML at the proposal evaluation meeting, that a single controller solution will not be considered at this time. CML's bid is for a dual controller solution, as described in the original RFP response and above.

 Describe how CML will provide day-to-day system management. Firmly state your understanding of this requirement including the aspects of Network, MSAG and MAP maintenance.

AK Associates incorporates a standard daily/ weekly/ monthly maintenance procedure that includes all aspects of monitoring and proactively reacting to all associated issues. We are offering two technicians that are dedicated to the ongoing support of the proposed system. They will specialize in network/PSAP and MSAG/Mapping respectively and will be at the disposal of the customer, working on site during regular County working hours.

After hours, they will monitor activity on a real time basis and respond to an alarm situation, or service request, at the customer's discretion as required. Similarly, any anomalies within the network will be monitored with notification provided via alarm, should a circuit enter any abnormal state.

The MSAG will be maintained in such a manner that any fallout or corrections will be identified, corrected and reported on a daily basis. The Mapping application will also be maintained in this manor, with inaccurate data reported and corrected immediately.

4. You have proposed A.K. Associates as a subcontractor. Who is A.K. (headquarters, years in the 9-1-1 business, number of employees, etc.)?

#### Overview of AK Associates

AK Associate's success and reputation is based on the company's focus and dedication strictly to 9-1-1. We not only offer technical and business strengths, but make it easy for our customers to do business with us. AK Associates experienced 9-1-1 staff is trained on various CPE manufacturer's equipment and ALI/DBMS Systems, having worked extensively with the database and system processes used by the large telephone companies, including Intrado and TCS. Our President, Mr. Arthur Kraus, while in the position as Nynex's database/system manager, designed and implemented many of the processes now in use by Verizon.

AK Associates is a cutting-edge 9-1-1 solutions company with a 9-year history, an impressive client portfolio, and an enviable success record. We invite you to speak with our customers as provided in our response. Today, after nine years, AK Associates 911, Inc., is proud of our key partnerships and track record.

We feel our value to our customers can be found through the proven practices and methodologies we bring to bear to address customer problems and a real desire to deliver proven systems at the leading edge of technology. We employ talented, committed people, providing a breadth of 9-1-1 solutions - not just glitz and glitter, that offer customers real cost savings and improved performance.



## Response to Leon County Questions 8-27-04



#### TDS-TCI

Explain how you are planning to deploy your VoIP solution in Leon County. What
are the primary elements and who manufacturers your equipment.

The configuration proposed provides redundant servers at both primary PSAP locations for ANI/ALI controller and selective routing functions as necessary. The Cisco Call Managers are also redundant in a "clustered" arrangement that allows one Call Manager to be deployed at each of the two primary locations. Upon award, project managers from both TDS and TCI will immediately interface with Sprint to order the 911 trunks and the frame relay network circuits.

The Call Manager is the telephony switch (providing PBX functionality) for the PSAPs. The iPSAP equipment will be configured and tested at the TCI manufacturing facility in Huntsville, AL and then delivered to the designated staging area in Leon County. This will reduce the time onsite dramatically, thereby making the technicians less intrusive to the day to day operation of Leon County PSAP's. TDS/TCI will install both primary PSAP's and test failover between servers before cutting live. The secondary PSAP's will be ready to install immediately after the equipment is cut-over at the primary PSAP's.

At the same time the equipment is being installed, the frame relay network would be installed and tested with TDS and Sprint technicians. Calls for those PSAPs would be made to appear on new trunks that automatically direct those calls to the secondary PSAPs if they were transferred from any other outside PSAP directly to a secondary. Calls from the first iPSAP primary PSAP would be transferred directly over the VoIP network without using a trunk or external line type transfer.

The TCI mapping technician in Huntsville AL will load and test the map data provided by Leon County onto the workstations before delivery to the S.O./EMS.

The primary elements of the system are:

- TCI Invision<sup>2</sup> Servers Hardware Manufactured by Dell Software by TCI
- CAMA Trunk Interface Manufactured by TCI
- Channel Bank Manufactured by Adtran (Atlas 550)
- Router for Voice Gateway Manufactured by Cisco
- Access Routers for PSAP Manufactured by Cisco
- Softswitch (CallManager) Manufactured by Cisco
- Ethernet Switch Manufactured by Cisco
- Intelligent Workstations Hardware manufactured by Dell Software by TCI
- iP Telephone Sets Manufactured by Cisco
- Audio Interface Units Manufactured by TCI



# Response to Leon County Questions 8-27-04

2. Where have you successfully implemented systems similar to that proposed for the Leon County 9-1-1 system? What is your record of accomplishment with VoIP implementations?

This Centralized Server configuration has been successfully implemented at Talladega County, Alabama using VoIP over Frame Relay for transport with great success. Larry Wright is the PSAP director there and can be reached at 256-761-9119. Another similar InVision Central Server installation is serving 22 PSAPs in the Oklahoma City area (ACOG). This Installation does not use VoIP, but does use the InVision central server arrangement. Very similar systems have been sold and are being installed within the next few months at Elmore County, Alabama and St Charles County, Missouri.

- 3. What do you perceive are the benefits to the County if we were to use this solution? The primary benefit of using a VOIP solution will be the seamless transport of calls between PSAP's.
  - Leon County will have the ability to configure the workstations in the Mobile Command Center using the extension mobility feature.
     This will allow dispatchers from any PSAP to deploy to the MCC and use their workstation profile immediately.
  - The ability to manage multiple PSAPs through either primary PSAP.
  - The ability to log-in as any PSAP on the network at any other PSAP on the network with the same user name and log-in (extension mobility.) This is very important for disaster recovery purposes.
  - The ability to accept and manage multiple types of network delivery.
    Many PSAPs today fear "future shock". The iPSAP solution prepares
    Leon County for next generation network, as the switch is already
    capable of managing network delivery as traditional as CAMA trunks
    and as forward-moving as SS7 with only very minor modifications to
    the existing system (such as adding and reconfiguring interface
    cards.)
  - The ability to add new PSAPs and positions with very minimal cost to the existing ANI/ALI server configuration. Adding additional PSAPs will require only networking and positions – the controller and Call Manager are extensible far beyond the initial implementation. In fact, the environment proposed, could feasibly manage multiple additional counties.
- 4. How does the proposed system provide fault tolerance?

The InVision servers are redundant and are spread between the two main sites. Any single server is capable of providing all ANI/ALI functionality. A total of four servers are proposed, with two each at the two main sites. The InVision system is designed to be in an active-active mode and automatically



## Response to Leon County Questions 8-27-04



performs fail-over if the current "Master" server has any problem. Cisco's Call Managers function the same way. The Call Managers have the capability to provide service to hundreds of stations. The 25 stations quoted for Leon County will not stress the capabilities of any component in the system. Trunking is designed to go into both main PSAPs so that calls can be processed if either of the main locations is removed from service for any reason. A great feature provided with this VoIP solution is "extension mobility" which allows a telephone to be placed anywhere on the WAN to take calls for any PSAP with the phone profile for that PSAP, including 911 lines and admin lines. The bottom line is that either of the two main sites can take all calls and stand alone as a PSAP if necessary. Trunks will be configured such that half of each PSAPs trunks come into each of the two main sites.

- 5. What, if any, are your plans for circuit diversity?
  - Separating the trunks into the two main locations provides great diversity for trunking. Frame Relay diversity has not been quoted at this time. Either primary PSAP can function without the frame relay as an isolated PSAP. If the frame relay is of concern a wireless broadband circuit between the two primary PSAPs would be very affordable and would provide great diversity.
- 6. Based upon what you are proposing, what is your estimated call setup time from the calling party perspective? What are the limiting factors?
  - There are two separate configurations that have been proposed. If the existing Selective Router is kept the initial call setup time would be identical to what Leon County is experiencing today. Transfers between PSAPs would be almost instantaneous with ANI/ALI and voice. If Leon County chooses to use the TCI Selective Router feature, call setup time would be reduced by approximately 2 to 3 seconds. The limiting factor is CAMA signaling from the end offices to the Selective Router and in the case of the existing Selective Router, CAMA signaling into the PSAP.
- 7. In Section 2.1, the proposal says the County will procure Sprint Network services "outside of this RFP". How much support will TDS provide in the ordering of these services?
  - Once Leon County has signed a Letter of Agency authorizing TDS to act as its agent, TDS will be the primary contact with Sprint. This would entail TDS acting as the point of contact for ordering circuits, but also for troubleshooting purposes. TDS would be the single point of contact.
- 8. What are the reliability figures (MTBF, etc.) for the proposed Seattle/Phoenix ALI and selective router databases? Does the Glynn County system utilize these databases?
  - For 26 years, HBF has enjoyed what is referred to as "five 9s" of uptime (99.999%), which translates into 4 minutes of downtime each year. TCS and HBF have worked seamlessly for several years delivering wireless ALI data into hundreds of PSAP's across the nation. Delivering ALI for wireless





## Response to Leon County Questions 8-27-04

customers is a far greater challenge and inherently more complex than ALI from a static database. Therefore TCS and HBF have great confidence that this new partnership into the wire line arena will be just as successful as their current wireless partnership. Glynn County currently uses their LEC (Bell South) for database services.

9. Describe how TDS will provide day-to-day system management.

During the installation of the system, weekly conference calls will be held with the following personnel:

Debra Smith, Account Manager, TDS

Ingrid Ulman, Project Manager, TDS

Ann Marie Lang, Account Manager, TCI

Noel Spangenburg, Project Manager, TCI

Phyllis Burnett, Sprint Account Manager

**Edith Taylor, Leon County 911 Director** 

Any additional personnel Leon County deems appropriate.

After the initial phase of installation is complete, Debra Smith will interface in person with Edith Taylor on a weekly basis to ensure ongoing satisfaction with Leon County. Additionally, we would propose that a monthly "wellness check-up" call be instituted to ensure Leon County's ongoing satisfaction with the services provided by TDS/TCI.

10. Your proposal does not include pricing for 9-1-1 data and cites it as "TBD." What are these costs?

This question is referring to the first pricing matrix, included in the original response. The pricing matrix was amended August 19th, to include the current tariff pricing from Sprint. At the time of this writing we are still awaiting unbundled pricing on the Selective router piece and stand-alone ALI database updates. Depending on which option Leon County chooses will affect which pricing matrix to apply. We have included both matrixes with this response for Leon County to study.

## ADDITIONAL RESPONSES TO QUESTIONS FROM LEON COUNTY

Questions were posed by the committee regarding population size of the following counties. All statistics are from the 2000 census.

Talladega County, AL: 80,321, grows to 250,000 on race weekends.

Elmore County, AL: 65,874

Escambia County, FL: 294,410



## Response to Leon County Questions 8-27-04



Caddo Parish, LA: 252,161 Glynn County, GA: 67,568

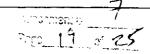
The census bureau has the population of Leon County to be 239,452 as of the 2000 census.

Terry Ryan spoke to John ciLoSchiavo at ACS regarding the recorder located at the Emergency Management office. From our discussions we have determined that Leon County can purchase from ACS a remote access module (TPD is currently utilizing this same module). This module would allow Leon County to retrieve recordings from trunk side just as they are doing now. A frame drop into the EM office can be added to the network. We think a 128K-256K size pipe will be sufficient. The cost of this drop would be approximately \$271-\$382 depending on the size circuit ordered.

We advise Leon County to determine the average size of their recording files to determine whether 128K or 256K is a sufficient size for this application. We do not know the current price of what Leon County is paying for the circuits into the Emergency Management office, so the determination of this solution being more cost effective will have to be made internally. We stand ready to implement a solution Leon County would feel is more cost effective, yet deliver the same capability you currently enjoy.

The GeoComm Plume Modeler has the ability to accept ALOHA footprint files. ALOHA was developed by the EPA.





## **PRICING MATRIX**

## **LEON COUNTY 9-1-1**

RFP# BC-07-15-04-49

## **NON-RECURRING COSTS**

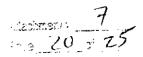
ANTICLE TO A DATE OF COLUMN	
ANI/ALI DATA BASE (TCS/HBF)	8,500.00
NETWORK (SPRINT)	3,263.90
EQUIPMENT - 911	502,162.50
GeoLynx Mapping	76,326.25
Frame	38,733.98
Selective Router	375,000.00
Additional Intelligent W/S	30,737.00
SERVICES-911	132,095.00
EXTENDED WARRANTY AND/OR REFRESH UPDATES	
911 Hardware (yrs. 2-7)	116,437.50
Selective Router (yrs.2-7)	67,500.00
911 Cisco Call Mgr. (yrs. 2-7)	99,843.00
911 Software (yrs. 2-7)	137,700.00
One Time Repl. W/S	124,217.62
Frame-Cisco(yrs. 2-7)	19,853.02
\$1,732,369.77	

## **RECURRING COSTS (PER MO.)**

'		Cost	Quantity	
ANI/ALI DATA I	BASE (TCS/HBF)	.07/record	230,000 records	\$16,100.00
SPRINT DATAB	ASE UPDATES		ŕ	\$10,000.00
NETWORK (SPR	LINT)			4,000
911 Trunks:	LCSO	161.25	10	\$ 1,612.50
	TPD	161.25	14	2,257.50
T1's for Frame:	LCSO	540.00	1	540.00
	MCC	540.00	1	540.00
	TPD	490.00	1	490.00
	FSU	386.00	1	386.00
	FAMU	271.00	1	271.00
	Capitol	271.00	1	271.00
\$ 32,468.00				
Recurring for term	of contract (84 me	os).		\$2,727,312.00
Combined Total	Non-Recurring &	Recurring		\$4,459,681.77

## OPTIONAL EQUIPMENT OR SERVICES

INTELLIGENT WORKSTATIONS	1	\$ 6,147.50	^=
TRUNK INTERFACE CARD	1	686.25	25

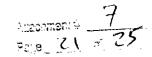




CSSG-Business Sales 107 W. Franklin St. Quincy, FL 32351

## LETTER OF AGENCY

ro:
<u>Leon County</u> has entered into a contractual agreement with TDS Telecom to act as our elecommunications representative and consultant for all negotiations for local telephone service an elecom equipment services for our location.
Under the terms of this agreement, and by this letter we do hereby authorize TDS Telecom to hand all negotiations for service requests and issuance of orders on our behalf.
This authorization does not preclude our ability to act in our own behalf when we deem it necessar
Your contact at TDS Telecom will be <u>Debra Smith</u> , who can be reached at <u>850 875-5234</u> .
Customer: Telephone #:
Ву:
Title:
Date:





To: Ms. Edith Taylor, Leon County Emergency Management

cc: Mr. Richard Smith, Leon County Emergency Management

Tony Busam, RCC Consultants
Joe Nasser, RCC Consultants

From: Tony Busam, RCC Consultants

**Date:** August 25, 2004

Re: Leon County CPE - Digital Transport Research

RCC is responding to Leon County's request that we investigate the technologies proposed by two of the short-listed respondents to the CPE RFP for end-to-end enhanced 9-1-1 services. In particular is the use of digital transport and Voice over Internet Protocol (VoIP) call distribution. This report is a summary of what this investigation found.

#### DIGITAL TECHNOLOGY

Prior to reporting on the results of our queries to the individual vendors, a short discussion of digital technology and 9-1-1 service is in order. In the mid 1990's in the capacity of the State of Oregon Enhanced 9-1-1 Program Coordinator, RCC Senior Consultant Anthony Busam first proposed the migration of the analog data circuits to digital format within the structure of the National Emergency Number Association (NENA). It was important that this shift in technology be done within the purview of NENA to assure equality of service relative to reliability, redundancy and compatibility of service. The format chosen to transport 9-1-1 data was frame relay as the transport and Internet Protocol (IP) as the network layer for routing. Frame relay was chosen due to its inherent fault tolerance and cost effectiveness. Today many states have migrated their data links to frame relay with great success.

VoIP is a technology that takes human speech (analog) and converts it into digital form for movement across some network. VoIP can either be limited to a local site (a direct replacement of a PBX) or moved around the world. It has a clear set of standards for operation and is primarily deployed as an IP based solution. The technology has been around for over five years and has matured into the preferred choice among commercial call-centers due to its scalability (ability to grow upon demand) and cost effectiveness.

Last year VoIP solutions were announced at the national NENA convention by several manufacturers of Customer Premises Equipment (CPE) intended to receive and distribute 9-1-1 calls. At this year's NENA convention in Tampa, Florida virtually every manufacturer of CPE introduced some form of VoIP. It is important to note these products do not replace the 9-1-1 network, rather they are used to process the calls either locally at a primary Public Safety Answering Point (PSAP) or distribute calls among primary and secondary PSAPs in a region. Most, if not all, vendors are basing their technology on the commercial call center model for call taking and distribution.

Leon County is considering two applications of frame relay and VoIP solutions. These vendors are TDS/TCI and Sprint/Positron.

## **INVESTIGATIVE RESULTS:**

Leon County CPE

Page 2

- 1.00 months 7 - 25 of 25

#### TDS/TCI

TDS Telecom is a telecommunications based company distributing products from Tel Control, Inc. (TCI). Contact was made directly with TCI to ascertain their VoIP offering and its maturity. Following are the highlights of their response:

- 1. TCI has used a modified version of VoIP interconnecting PSAPs in Talladega for over four years. They take CAMA based 9-1-1 calls, convert these to VoIP via Frame Relay and reassemble an analog signal at the local PSAPs. The VoIP technology is via Cisco Call Manager® hardware and is the same as proposed for Leon County.
- They reported their first sale of this technology as a complete VoIP based call distribution solution is to Elmore County, AL. This system is scheduled for installation next month. However, they report testing there for the past year taking every fifth call on this same VoIP system.
- TCI reports they have successfully passed the SBC (nation's largest telecommunications provider) test center evaluation. Effectively this makes them an offering in all SBC territories. This reporting is significant due to the stringent testing mandated by all major telecommunication companies.

#### SPRINT/POSITRON

Sprint is the Incumbent Local Exchange Carrier (ILEC) within Leon County. They are offering a Positron solution in their response. Positron is a Canadian based manufacturer of CPE and notably one of the largest providers of CPE within the United States. RCC has had contact with Positron and as of 1145 hours on 8/25/04 are awaiting formal response to our inquiry.



Attachment # 7 Page 23 of 25

Tol Ms. Edith Taylor, Leon County Emergency Management

CC: Mr. Richard Smith, Leon County Emergency Management

Tony Busam, RCC Consultants

Joe Nasser, RCC Consultants

From: Clint Hugghins, RCC Consultants

Date: September 1, 2004

Re: Leon County CPE - Evaluation Question Response Review

RCC makes the following comments regarding the received vendor responses to the County's evaluation questions.

#### TDS-TCI

## **Network Layout**

- 1. Vendor did not supply a network diagram in their response to the evaluation questions. Our evaluation is based on originally proposed layout.
- 2. Vendor proposes a full T1 transport facility to each PSAP.
- 3. Network design is equivalent to the Sprint/Positron offering.

#### Question Responses

- 4. Proposed network layout appears to follow industry standards for VoIP with hardware supplied by known vendors.
- 5. VolP benefits listed are reasonable.
- 6. Acceptable fault tolerance specified.
- 7. The proposed solution satisfies the RFP's circuit diversity requirements.
- 8. It appears that the vendor is offering an option of local selective routing which would reduce call set up times, but at an extra cost to the County.
- 9. Vendor understands the system administrator role and meets the requirements of the RFP.
- 10. System costs identified as "TBD" are still pending. Regardless of vendor, final and best pricing will be finalized during contract negotiations.

## **CML**

## **Network Layout**

1. Proposed design can potentially decrease call set up times, this decrease is due to the elimination of the Sprint selective router and its associated outbound CAMA trunks.



- 2. ALI databases housed locally. Requires update coordination between Sprint and CML (i.e., for daily ALI updates). Risk exists in synchronizing local and Sprint ALI databases.
- 3. Vendor proposes providing T1 connectivity to wireless providers.

## **Question Responses**

- 4. Acceptable fault tolerance specified.
- 5. The proposed solution satisfies the RFP's circuit diversity requirements.
- 6. By eliminating the Sprint selective router and the outbound CAMA trunks, the specified call setup time is reasonable.
- 7. Bid Option 2 increases the level of system survivability.
- 8. In vendor's response to question #9, RCC questions the leased line connection between the ECS-1000 and the CAD Computer (which are collocated in the same facility).
- County should be aware that ISDN PRI is a digital form of voice transfer between PSAPs. If the County is reluctant toward digital voice transport, alternative means of transfer could be pursued.
- 10. Vendor seems unaware that the County Coordinator IS NOT collocated with the LCSO PSAP. Additional circuits between the LCSO PSAP and the Emergency Management office will be required.
- 11. Vendor understands the system administrator role and meets the requirements of the RFP.

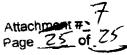
## SPRINT/Positron

## **Network Layout**

- 1. Sprint connections to secondary PSAPs are fractional T1s.
- 2. Vendor solution provides redundant ALI databases.
- 3. Double backbone facilities provided.
- 4. Network design is equivalent to the TDS offering.

## **Question Responses**

- 5. If accurate, call setup times specified are acceptable.
- 6. Acceptable fault tolerance specified.
- 7. The proposed solution satisfies the RFP's circuit diversity requirements.
- 8. Phase II specifications are acceptable. The County should set up policy regarding Phase II re-bidding (regardless of system chosen).
- 9. Day-to-day maintenance proposed is identical to current service.
- 10. No audit process proposed for MSAG maintenance.
- 11. Map maintenance responsibility not accepted by the vendor. Vendor CAN provide tools to automate the map maintenance process.



- 12. Sprint has committed to a level of service specified in the RFP. The County should not have to suffer the expense of onsite critical spares kit(s).
- 13. According to the question response, Sprint has agreed with the RFP requirements regarding service levels. RCC was not present during August 18-19 meetings relative to "definitions used by the County," RCC assumes these definitions are satisfactory to Leon County.

Responsibility for escalation after initial contact is the responsibility of the service provider.